Application No. 10/076,643 Reply to Office Action of June 20, 2003

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (priginal): A pilot nozzle for a gas turbine combustor comprising:

a fuel oil supply pipe passed through a cylinder unit provided in an axial direction of the pilot nozzlex

a heat-shielding air layer formed between the fuel oil supply pipe and the cylinder unit; and

a plurality of atomized-fluid supply paths provided in a circumferential direction of the cylinder unit.

O Claim 2 (currently amended): The pilot nozzle according to claim 1, wherein the fuel oil supply pipe has a portion at a predetermined distance from the front end fixed to the eylinder unit, and has a rear end portion for supplying the fuel therefrom held by a structure so as not to be restricted to an restrict a displacement in axial direction due to thermal expansion or compression.

O Claim 3 (currently amended): The pilot nozzle according to claim 2, <u>further</u> comprising:

a plurality of fuel gas supply paths provided in a circumferential direction of the cylinder unit;

a front end portion connected to an end portion of the cylinder unit; and
a distribution section disposed between the cylinder unit and the front end portion,
wherein the fuel gas supply paths and the atomized-fluid supply paths are disposed
alternately in the circumferential direction respectively within the cylinder unit, the front end
portion is provided with an atomized-fluid flow path and a fuel gas flow path which is

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disposed outside the atomized-fluid flow path, and the distributing section connects the fuel gas supply paths with the fuel gas flow path and the atomized-fluid supply paths with the atomized-fluid flow path respectively, wherein the distributing section is a cylindrical structure disposed inside the cylindrical space front end portion, and has a supply path converter which having a hollow inside the structure, has a hole A provided at a center portion of the end surface at one end through which the fuel oil supply pipe is connected to a fuel supply path, and has a first converting flow path hole B communicated to through which the atomized-fluid supply paths are converted to the atomized-fluid flow path having a ring-shaped cross-section, inside of the cylindrical structure and a second converting flow path [[G]] through which the fuel gas supply paths are converted to the fuel gas flow path having a ring-shaped cross-section communicated to the outside of the cylindrical structure, formed respectively at the outside of the end surface in a radial direction of the hole A, with the fuel-oil supply pipe having substantially the same diameter as the hole A passed through the hole A, the atomized fluid supply path connected to the hole B, and the flow path C connected to the fuel gas supply path.

Claim 4 (original): A pilot nozzle for a gas turbine combustor comprising:

a fuel oil supply pipe passed through a cylinder unit provided in an axial direction of the pilot nozzle;

a heat-shielding air layer formed between the fuel dil supply pipe and the cylinder unit; and

a plurality of atomized-fluid supply paths and fuel gas supply paths provided in a circumferential direction of the cylinder unit.

• Claim 5 (currently amended): The pilot nozzle according to claim 4, further comprising:



a front end portion connected to an end portion of the cylinder unit; and
a distributing section disposed between the cylinder unit and the front end portion,
wherein the fuel gas supply paths and the atomized-fluid supply paths are disposed
alternately and uniformly in the circumferential direction respectively within the cylinder
unit, a portion near a the front end portion is provided with an atomized-fluid flow path and a
fuel gas flow path which is disposed outside the atomized-fluid flow path of the pilot nozzle
has a structure having concentrically superimposed in multiple layers, and [[a]] the
distributing section connects the fuel gas supply paths with the fuel gas flow path and the
atomized-fluid supply paths with the atomized-fluid flow path to paths between separate
eylinders respectively.

- Claim 6 (currently amended): The pilot nozzle according to claim 4, wherein the fuel oil supply pipe has a portion at a predetermined distance from the front end fixed to the eylinder unit, and has a rear end portion for supplying the fuel therefrom held by a structure so as not to restrict a displacement be restricted to an in axial direction due to thermal expansion or compression.
- Claim 7 (currently amended): The pilot nozzle according to claim 5, wherein the distributing section is a cylindrical structure disposed inside the front end portion, cylindrical space and has a supply path converter which having a hollow inside structure, has a hole [[A]] provided at a center portion of the end surface at one end, through which the fuel oil supply pipe is connected to a fuel supply path, and has a first converting flow path hole B communicated to through which the atomized-fluid supply paths are converted to the atomized-fluid flow path having a ring-shaped cross-section, inside of the cylindrical structure and a second converting flow path [[C]] through which the fuel gas supply paths are converted to the fuel gas flow path having a ring-shaped cross-section communicated to the

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outside of the cylindrical structure, formed respectively at the outside of the end surface in a radial direction of the hole A, with the fuel oil supply pipe having substantially the same diameter as the hole A passed through the hole A, the atomized fluid supply path connected to the hole B, and the flow path C connected to the fuel gas supply path.

Claim 8 (currently amended): The pilot nozzle according to claim 6, <u>further</u> comprising:

a front end portion connected to an end portion of the cylinder unit; and
a distributing section disposed between the cylinder unit and the front end portion,
wherein the fuel gas supply paths and the atomized-fluid supply paths are disposed
alternately and uniformly in the circumferential direction respectively within the cylinder
unit, the front end portion is provided with an atomized-fluid flow path and a fuel gas flow
path which is disposed outside the atomized-fluid flow path, and the distributing section
connects the fuel gas supply paths with the fuel gas flow path and the atomized-fluid supply
paths with the atomized-fluid flow path respectively,

wherein the distributing section is a cylindrical structure disposed inside the front end portion, cylindrical space and has a supply path converter which having a hollow inside the structure, has a hole A provided at a center portion of the end surface at one end, through which the fuel oil supply pipe is connected to a fuel supply path, and has a first converting flow path hole B communicated to through which the atomized-fluid supply paths are converted to the atomized-fluid flow path having a ring-shaped cross-section, inside of the cylindrical structure and a second converting flow path having a ring-shaped cross-section communicated to the outside of the cylindrical structure, formed respectively at the outside of the end surface in a radial direction of the hole A, with the fuel oil supply pipe having

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substantially the same diameter as the hole A passed through the hole A, the atomized fluid supply path connected to the hole B, and the flow path C connected to the fuel gas supply path.

Claim 9)(currently amended): A supply path converter comprising:

a cylinder having an end surface at one end and that is a cylindrical structure disposed inside the a cylindrical space and having a hollow inside the structure,

wherein the cylinder is provided with [[has]] a hole A provided at a center portion of the end surface for passing a fuel supply path therethrough at one end, and has a first converting flow path having an opening adjacent to the hole and communicating hole B communicated to the hollow for converting into a first supply path connected to the hollow inside the cylinder and having a ring-shaped cross-section, inside of the cylindrical structure and a second converting flow path having an opening adjacent to the hole and communicating C communicated to the outside of the cylinder for converting into a second supply path formed outside the cylinder eylindrical structure, formed respectively at the outside of the end surface in a radial direction of the hole A, with a pipe having substantially the same diameter as the hole A passed through the hole A, and the hole B and the flow path C connected with supply paths disposed in a circumferential direction of the same end surface respectively.